

Remarks/Arguments

The present amendment is made in response to the Current Office Action. Upon entry of the amendment, claims 11-21 will be pending. This amendment amends claim(s) 11, 20 and 21.

Claim Rejections – Anticipation -- 35 USC § 102

The Office Action rejects claims 11-15 and 18-21 on 35 U.S.C. §102 anticipation grounds based on US patent 4,135,027 (“Anthony”). Claims 11, 20 and 21 have been amended to overcome this rejection as will now be explained.

A. Anthony

Anthony discloses a system for irradiating a semiconductor wafer workpiece 110 with infrared radiation. (See Anthony at col. 5, ll. 20-40 and claim 1.) In the Anthony system, an annular (that is, ring shaped) layer 126 is placed between the infrared radiation source 128 and the wafer 110 – more specifically, the ring shaped layer 126 is placed directly on top of the top surface of the wafer 110. (See Anthony at Figure 5 and col. 6, ll. 49-55.)

As the undersigned best understands Anthony, Anthony does not explicitly say that the ring shaped layer 126 transmits any of the infrared radiation incident upon it from radiation source 128. Rather, Anthony says that the ring shaped layer absorbs the infrared radiation incident upon it and re-radiates (at least a portion of) it into the outer peripheral portions of wafer 110 lying directly beneath it. Figure 5 seems to show this absorption and re-radiation graphically. The Current Office Action argues that the fact that the ring shaped layer 126 has a non-zero infrared transmittance is disclosed at column 7, ll. 3-60 and Figure 5 (see Current

Office Action at p. 3, final paragraph), but there does not, in fact, seem to be any disclosure of infrared transmissivity (as opposed to absorption/re-radiation) in these cited portions of Anthony.

However, for purposes of this response,¹ it will be assumed that the ring shaped layer 126 of Anthony does have a non-zero transmissivity with respect to infrared radiation. More specifically, in the following analysis, it will be assumed that the Current Office Action is correct when it states that:

Anthony discloses a guard ring/mask 126, the ring 126 [forming a] perimeter region [or] first region having a first non-zero transmittance with respect to infrared wavelength(s) . . .

(Current Office Action at p. 3, final paragraph.)

B. Claims 11 and 21 and Their Dependent Claims

Claim 11 (as amended) sets forth a filter that recites “a second region comprising a material having second non-zero transmittance with respect to infrared wavelength(s) suitable for use in the plasma etching process that is different than said first non-zero transmittance with respect to infrared wavelength(s) suitable for use in the plasma etching process.” Claim 21 (as amended) recites a device with similar claim language.

This claim language is not disclosed in Anthony for two reasons. First, Anthony doesn’t teach or suggest that its ring shaped layer 126 is suitable for use in a plasma etching process and there is no reason to believe that it would be based on the teachings of Anthony. Second, Anthony’s ring shaped layer 126 has only a single region comprising a single material, and it does not include “a second region comprising a material.” Even if the opening in the center of the annulus of ring shaped layer 126 of Anthony could be considered as a region, it certainly cannot be considered as a “second region *comprising a material*” (emphasis added) because it is an

¹ and without admission or prejudice.

opening and includes no material. For this reason, claims 11-15 and 18-19 (as amended) are patentable over Anthony.

C. Claim 20

Claim 20 (as amended) sets forth a filter that recites “a plurality of transmission regions, with said transmission regions of said plurality of transmission regions being respectively characterized by a metallic coating having different respective thicknesses and varying degrees of transmittance with respect to the infrared wavelength(s).” As explained in connection with claim 11, this is not disclosed in Anthony. For this reason, claim 20 (as amended) is patentable over Anthony.

Claim Rejections – Obviousness -- 35 USC § 103

The Office Action rejects claims 16-17 on 35 U.S.C. 103 obviousness grounds based on one or more of the following references: (i) Anthony ; and (ii) US patent 6,867,420 (“Mathies”) (collectively the “Applied Art”). Claim 11 (the base claim of claims 16 and 17 has been amended to overcome this rejection. More specifically, the language of claim 11 quoted above is not taught or suggested by either Anthony (for the reasons explained above) or Mathies. For this reason, claims 16 and 17 are patentable over Mathies.

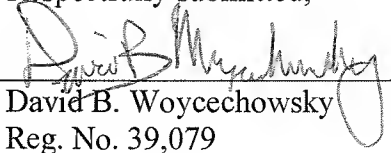
Conclusion

In view of the foregoing amendments and/or discussion, it is respectfully submitted that this application is ready for allowance. If the Examiner believes a telephone conference with Applicant's attorney would expedite prosecution of this application, please contact the undersigned at (315) 218-8116.

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Respectfully submitted,

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